

AMENDMENTS TO THE CLAIMS

Amend the claim set, replacing all prior versions, without prejudice or disclaimer of the subject matter thereof, as detailed in the following complete listing of all claims:

Listing of claims:

- 1) (Currently Amended) A method of generating computer code using components, each component embodying being a representation of a respective data manipulation service provided by a component server, the method including:
 - a) Determining a component combination, the component combination being a combination of components representing a plurality of interconnected component servers for performing a defined defining a series of data manipulations, and the component combination being defined in accordance with requirements to allow a user desired functionality to be achieved;
 - b) Implementing the component combination to generate the computer code by:
 - i) Causing the implementation of a component server corresponding to each component in the combination, each component server being implemented by a processing system; and,
 - ii) Causing each component server to perform the respective data manipulation service in accordance with the defined series of data manipulations, at least some of the component servers performing the respective data manipulation service by interacting with a data sequence, and at least some of the component servers performing the respective data manipulation service by at least one of:
 - (1) Interacting with one or more other component servers; and,
 - (2) Causing the implementation of further components; and,
 - iii) Obtaining, as a result of the component servers performing the series of data manipulations and from the data sequence, a resultant data sequence, the resultant data sequence being the computer code; and,
 - c) Providing the computer code to a processing system, such that execution of the computer code by the processing system causes the processing system to perform the desired functionality.
- 2) (Original) A method according to claim 1, at least some of the components including one or more ports for receiving and/or outputting data to be manipulated.
- 3) (Original) A method according to claim 2, each port having an agent adapted to control transfer of data to and from the component.

- 4) (Currently Amended) A method according to claim 2, the method including having the component server:
 - a) Receive data including a number of data portions;
 - b) Manipulate the data sequence by:
 - i) Adding data portions into the sequence at a predetermined location;
 - ii) Moving data portions from a first location to a second location within the sequence;
 - iii) Removing data portions from the sequence; and,
 - iv) Modifying data portions in the sequence.
- 5) (Original) A method according to claim 4, at least a portion of the method being performed using a processing system including a store, the method including storing one or more of the data portions in the store.
- 6) (Previously Presented) A method according to claim 1, at least some of the components being formed from a number of combined sub-components, the sub-components also being components.
- 7) (Currently Amended) A method according to claim 1, at least some of the components servers being formed-performing data manipulations using at least one of:
 - a) Manual manipulation of the data by an individual;
 - b) Computer code adapted to be executed by a processing system, to thereby manipulate of the data automatically; and,
 - c) Combinations of sub-components, the sub-components also being components.
- 8) (Previously Presented) A method according to claim 1, the method being performed using one or more processing systems.
- 9) (Original) A method according to claim 8, the method including causing a first processing system to:
 - a) Select a number of components in response to input commands received from a user;
 - b) Define the component combination using the selected components; and,
 - c) Cause the component combination to be implemented such that the defined series of data manipulations is performed.
- 10) (Original) A method according to claim 9, at least some of the components including one or more ports, the method including causing the processing system to:
 - a) Provide an indication of the ports of each selected component to the user; and,
 - b) Interconnect selected ones of the ports in response to input commands from the user to thereby define the component combination.
- 11) (Previously Presented) A method according to claim 8, the method including causing a second processing system to:

- a) Determine details of a number of components;
 - b) Provide at least an indication of the details to the user via the first processing system.
- 12) (Original) A method according to claim 11, the method including causing the processing system to:
- a) Select respective ones of the components in response to input commands from the user; and,
 - b) Provide the details of the selected components to the user via the first processing system.
- 13) (Original) A method according to claim 12, the details being component specifications, the processing system including:
- a) A store for storing the component specifications including at least one of:
 - i) An indication of the manipulation service;
 - ii) A graphical representation of the component; and,
 - iii) Port specifications defining the operation of the agents associated with each port; and,
 - b) A processor, the method including causing the processor to:
 - i) Obtain one or more component specifications from the store; and,
 - ii) Provide the component specifications to the user via the first processing system.
- 14) (Previously Presented) A method according to claim 9, the method including causing the first processing system to:
- a) Generate a graphical representation of the one or more selected components; and,
 - b) Manipulate the graphical representation in response to input commands received from a user to thereby define the component combination.
- 15) (Currently Amended) A method according to claim 9, the first processing system being coupled to one or more component processing systems via a communications network, each component processing system being adapted to implement one or more respective components servers, the method including:
- a) Generating a service request for each component in the component combination; and,
 - b) Transferring the service request to each entity-component processing system via the communications network, each entity-component processing system being adapted to respond to the service request to implement a component server for providing the data manipulation service embodied-represented by the respective component.
- 16) (Original) A method according to claim 15, the method including:
- a) Determining any data required by the components; and,
 - b) Providing the data in the service request.
- 17) (Previously Presented) A method according to claim 15, each service request including an indication of the interconnections for each of the ports of the respective component.

- 18) (Currently Amended) A method according to claim 17, the method including causing each component processing system to:
 - a) Implement one or more respective component instances servers in accordance with the received service request; and,
 - b) Cause each component instance server to:
 - i) Interact with other components servers in accordance with the interconnections defined in the service request; and,
 - ii) Perform any required data manipulations.
- 19) (Previously Presented) A method according to claim 17, the method including causing each component processing system to:
 - a) Implement a respective agent associated with each port; and,
 - b) Cause each agent to cooperate with an agent of another component in accordance with the defined interconnections, to thereby allow data to be transferred between the ports.
- 20) (Currently Amended) A method according to claim 11, the method including causing the second processing system to:
 - a) Determine performance information, the performance information being representative of one or more criteria regarding the implementation of the components servers;
 - b) Provide the performance information to a user, the user selecting the components in accordance with the performance information.
- 21) (Currently Amended) A method according to claim 20, the performance information including at least one of:
 - a) An indication of the entity component processing implementing the component server;
 - b) An indication of the geographical location of the entity component processing system;
 - c) An indication of the duration for implementing the component server;
 - d) An indication of a cost associated with implementing the respective component server; and,
 - e) A rating, the rating being indicative of the success of the component server.
- 22) (Currently Amended) A method according to claim 20, the method including:
 - a) Providing a number of different components for performing that are representations of substantially equivalent data manipulation services provided by different component servers, the different components servers being provided implemented by different entities component processing systems; and,
 - b) Inducing competition between providers of the entities component processing systems to thereby drive improvement of the components servers.

- 23) (Previously Presented) A method according to claim 20, the method including generating revenue by charging a cost for the use of each component.
- 24) (Currently Amended) A method according to claim 23, the including:
 - a) Providing at least some of the revenue to a respective provider of the component processing system entity-implementing the component server represented by the component; and,
 - b) Having the operator of the second processing system retain at least some of the revenue.
- 25) (Previously Presented) A method according to claim 1, the method including causing the generated code to be context dependent.
- 26) (Original) A method according to claim 25, the method causing at least some of the components to:
 - a) Determine a context for the code; and,
 - b) Perform the data manipulation service in accordance with the determined context such that the performed data manipulation is dependent on the context.
- 27) (Original) A method according to claim 26, the processing system including at least a memory, stack and registers, the context including at least one of:
 - a) The state of at least one of the registers, stack and memory;
 - b) Other components in the defined component combination; and,
 - c) Random factors.
- 28) (Previously Presented) A method according to claim 26, the method including making the data manipulation context dependent by at least one of:
 - a) Dithering;
 - b) Meshing; and,
 - c) Obscuring.
- 29) (Currently Amended) Apparatus for generating computer code using components, each component embedding being a representation of a respective data manipulation service provided by a component server, the apparatus including one or more processing systems adapted to:
 - a) Determine, using a processor, a component combination, the component being a combination of components representing a plurality of interconnected component servers for performing a defined defining a series of data manipulations, and the component combination being defined in accordance with requirements to allow a user desired functionality to be achieved;
 - b) Implement, using the processor, the component combination to generate the computer code by:
 - i) Causing the implementation of a component server corresponding to each component in the combination, each component server being implemented by a processing system; and,

- ii) Causing each component server to perform the respective data manipulation service in accordance with the defined series of data manipulations, at least some of the component servers performing the respective data manipulation service by interacting with a data sequence, and at least some of the component servers performing the respective data manipulation service by at least one of:
 - (1) Interacting with one or more other component servers; and,
 - (2) Causing the implementation of further components; and,
 - iii) Obtaining as a result of the component servers performing the series of data manipulations and from the data sequence, a resultant data sequence, the resultant data sequence being the computer code; and,
- c) Providing the computer code to a processing system, such that execution of the computer code by the processing system causes the processing system to perform the desired functionality.
- 30) (Currently Amended) Apparatus according to claim 29, the apparatus including:
- a) One or more component processing systems, each component processing system being adapted to implement a respective component server; and,
 - b) A first processing system, the first processing system being adapted to:
 - i) Define the component combination in accordance with input commands received from a user using an input device;
 - ii) Determine the component processing systems implementing the respective components servers represented by the components of the component combination; and,
 - iii) Transfer service requests to each of the determined component processing systems.
- 31) (Currently Amended) Apparatus according to claim 30, the component processing system being adapted to:
- a) Receive the service request;
 - b) Generate a respective component-instance server; and,
 - c) Perform the data manipulation service using the respective component-instance server.
- 32) (Previously Presented) Apparatus according to claim 29, the apparatus including a second processing system, the second processing system being adapted to store details of available components.
- 33) (Original) Apparatus according to claim 32, the second processing system being adapted to obtain the details of a component from a respective component processing system.
- 34) (Previously Presented) Apparatus according to claim 32, the first processing system being adapted to cooperate with the second processing system to thereby allow a user to:
- a) Select one or more of the available components; and

- b) Define the component combination.
- 35) (Cancelled)
- 36) (Cancelled)
- 37) (Currently Amended) A method of allowing users to manipulate a data sequence, the method including using one or more processing systems coupled to a number of end stations via a communications network, using the one or more processing systems to:
- a) Store details of a number of components, each component being a representation of representing a respective data manipulation service implemented-provided by a respective entity-component server, and the details being at least partly based on a component specification from a respective entity processing system for implementing the component server;
 - b) Provide details of selected components to users, thereby allowing the users to select components and define a component combination defining a series of data manipulation services for manipulating the data sequence using an end station, the component combination being a combination of components and representing a plurality of interconnected component servers for performing the defined series of data manipulation services;
 - c) Determine performance information representative of one or more criteria regarding the implementation of the components; and,
 - d) Provide the performance information to a user, the user selecting the components in accordance with the performance information.
- 38) (Currently Amended) A method according to claim 37, the performance information including at least one of:
- a) An indication of the entity-component processing system implementing the component server;
 - b) An indication of the geographical location of the entity-component processing system;
 - c) An indication of the duration for implementing the component server;
 - d) An indication of a cost associated with implementing the respective component server; and,
 - e) A rating, the rating being indicative of the success of the component server.
- 39) (Currently Amended) A method according to claim 37, the method including:
- a) Providing a number of different components for performing—that are representations of substantially equivalent data manipulation services provided by different component servers, the different components servers being provided by different entities component processing systems; and,
 - b) Inducing competition between providers of the entities component processing systems to thereby drive improvement of the components servers.

- 40) (Previously Presented) A method according to claim 37, the method including generating revenue by charging a cost for the use of each component.
- 41) (Currently Amended) A method according to claim 40, the method including providing at least a portion of the fee to the respective entity provider of the component processing system.
- 42) (Previously Presented) A method according to claim 37, the processing system including a store and a processor, the method including:
 - a) Storing component specifications in the store; and,
 - b) Providing the component specifications to the user via the end station, thereby allowing the user to define a component combination and implement the required data manipulation services.
- 43) (Currently Amended) Apparatus for allowing users to manipulate a data sequence, the apparatus including one or more processing systems coupled to a number of end stations via a communications network, the one or more processing stations adapted to:
 - a) Store details of a number of components, each component being a representation of representing a respective data manipulation service implemented provided by a respective entity-component server and the details being at least partly based on a component specification from the-a respective entity-processing system for implementing the component server;
 - b) Provide details of selected components to users, thereby allowing the users to select components and define a component combination defining a series of data manipulation services for manipulating the data sequence using an end station, the component combination being a combination of components and representing a plurality of interconnected component servers for performing the defined series of data manipulation services;
 - c) Determine performance information representative of one or more criteria regarding the implementation of the components; and,
 - d) Provide the performance information to a user, the user selecting the components in accordance with the performance information.
- 44) (Cancelled)
- 45) (Cancelled)
- 46) (Currently Amended) A method of providing a dynamic component for providing data manipulation services, the method including:
 - a) Determining a service to be performed;
 - b) Determining at least two methods of performing the service, wherein the methods of performing the service utilising respective components include:

- i) Selecting components to implement the desired services, each component being a representation of a respective data manipulation service provided by a component server;
 - ii) Defining a component schematic including at least:
 - (1) A first schematic portion representing any common portion of each method of performing the service;
 - (2) At least two second schematic portions representing any different portion of each method of performing the services; and,
 - (3) A selector agent for selecting a respective one of the second schematic portions;
 - c) Upon receiving data, determining a process of selecting one of the methods in accordance with the received data; and,
 - d) Generating a component specification defining a component embodiment-representing the data manipulation service.
- 47) (Original) A method according to claim 46, the method including defining an agent associated with each input or output, the agent being adapted to cooperate with an agent of another component in accordance with the defined interconnections, to thereby allow data to be transferred between the ports of the components.
- 48) (Currently Amended) Apparatus for providing a dynamic component for providing data manipulation services, the apparatus including a processing system for:
- a) Determining using a processor, a service to be performed;
 - b) Determining using the processor, at least two methods of performing the service, wherein the methods of performing the service utilising respective components include:
 - i) Selecting components to implement the desired services each component being a representation of a respective data manipulation service provided by a component server;
 - ii) Defining a component schematic including at least:
 - (1) A first schematic portion representing any common portion of each method of performing the service;
 - (2) At least two second schematic portions representing any different portion of each method of performing the services; and,
 - (3) A selector agent for selecting a respective one of the second schematic portions;
 - c) Upon receiving data, determining using the processor, a method of selecting one of the methods in accordance with received data; and,
 - d) Generating a component specification defining a component embodiment-representing the data manipulation service.

49) (Cancelled)

50) (Cancelled)

51) (Currently Amended) A method of generating computer code by allowing users to manipulate a data

sequence, the method including:

- a) Providing details of a number of components, each component embodying being a representation of a respective data manipulation service implemented provided by a respective entity component server;
- b) Allowing users to define a component combination, the component combination being a combination of components and representing a plurality of interconnected component servers for performing a defined defining a series of data manipulations, and the component combination being defined in accordance with requirements to allow a user desired functionality to be achieved;
- c) Implementing the component combination to generate the computer code by:
 - i) Causing the implementation of a component server corresponding to each component in the combination, each component server being implemented by a processing system;
 - ii) Causing each component server to perform the respective data manipulation service in accordance with the defined series of data manipulations, at least some of the component servers performing the respective data manipulation service by interacting with a data sequence, and at least some of the component servers performing the respective data manipulation service by at least one of:
 - (1) Interacting with one or more other component servers; and,
 - (2) Causing the implementation of further components; and,
 - iii) Obtaining as a result of the component servers performing the series of data manipulations and from the data sequence, a resultant data sequence, the resultant data sequence being the computer code; and,
- d) Providing the computer code to a processing system, such that execution of the computer code by the processing system causes the processing system to perform the desired functionality.

52) (Original) A method according to claim 51, the method including:

- a) Allowing users to select components; and,
- b) Providing users with a component specification for each selected component, each component specification defining the data manipulation service and port specifications defining data to be received at or output from respective ports.

- 53) (Currently Amended) A method according to claim 52, the method including obtaining the component specification for a respective component from an entity component processing system implementing the component server represented by the component.
- 54) (Previously Presented) A method according to claim 52, the method being implemented using one or more processing systems coupled to a user end station via a communications network, the method including:
- Allowing the user to select the components using the end station; and,
 - Transferring the component specifications to the end station from one or more of the processing systems.
- 55) (Currently Amended) A method according to claim 52, the method including allowing users to select the components in accordance with performance information including at least one of:
- An indication of the entity component processing system implementing the component server;
 - An indication of the geographical location of the entity component processing system;
 - An indication of the duration for implementing the component server;
 - An indication of a cost associated with implementing the respective component server; and,
 - A rating, the rating being indicative of the success of the component server.
- 56) (Currently Amended) A method according to claim 52, the method including:
- Causing the end station to generate service requests in accordance with the component combination; and,
 - Transferring the service request to entity component processing systems thereby causing the entity component processing systems to implement a component server for providing perform-the data manipulation service defined-represented by the component.
- 57) (Currently Amended) A method according to claim 56, the component combination defining connections between the components servers, the service requests including connection information determined by the end station from the component specifications.
- 58) (Currently Amended) A method according to claim 57, the method including causing the component processing systems to:
- Generate one or more component instances-servers in accordance with the received service request;
 - Cause each component instance-server to:
 - Cooperate with other components-servers to send and/or receive data; and,
 - Perform the required data manipulation service.

- 59) (Currently Amended) Apparatus for generating computer code by allowing users to manipulate a data sequence, the apparatus including a processing system for:
- a) Providing details of a number of components, each component being a representation of representing a respective data manipulation service implemented provided by a respective entity component server;
 - b) Allowing users to define a component combination, the component combination being a combination of components and representing a plurality of interconnected component servers for performing a defined defining a series of data manipulation services;
 - c) Implementing, using a processor implement the component combination to generate the computer code by:
 - i) Causing the implementation of a component server corresponding to each component in the combination, each component server being implemented by a processing system;
 - ii) Causing each component server to perform the respective data manipulation service in accordance with the defined series of data manipulations, at least some of the component servers performing the respective data manipulation service by interacting with a data sequence, and at least some of the component servers performing the respective data manipulation service by at least one of:
 - (1) Interacting with one or more other component servers; and,
 - (2) Causing the implementation of further components; and,
 - iii) Obtaining as a result of the component servers performing the series of data manipulations and from the data sequence, a resultant data sequence, the resultant data sequence being the computer code; and,
 - d) Providing the computer code to a processing system, such that execution of the computer code by the processing system causes the processing system to perform the desired functionality.
- 60) (Cancelled)
- 61) (Cancelled)
- 62) (Original) A method according to claim 1, wherein the method further includes, implementing at least some component servers by:
- a) Determining a context from the defined component combination; and,
 - b) Performing the data manipulation service in accordance with the determined context.
- 63) (Original) A method according to claim 1, wherein at least some of the components include a number of predetermined techniques for performing the respective data manipulation service, and wherein the method includes implementing at least some of the component servers by:

- a) Selecting one of the predetermined techniques based on the component combination; and,
 - b) Performing the respective data manipulation service using with the selected predetermined technique.
- 64) (Original) Apparatus according to claim 29, wherein the at least some component servers are implemented by:
- a) Determining a context from the defined component combination; and,
 - b) Performing the data manipulation service in accordance with the determined context.
- 65) (Original) Apparatus according to claim 29, wherein at least some of the components include a number of predetermined techniques for performing the respective data manipulation service, and wherein at least some of the component servers are implemented by:
- a) Selecting one of the predetermined techniques based on the component combination; and,
 - b) Performing the respective data manipulation service using with the selected predetermined technique.
- 66) (Newly Added) A method according to claim 1, wherein the data sequence is a binary file including bytes, and wherein at least some of the component servers perform the respective data manipulation services by manipulating the bytes of the binary file, and wherein the generated computer code is executable binary code.
- 67) (Newly Added) Apparatus according to claim 29, wherein the data sequence is a binary file including bytes, and wherein at least some of the component servers perform the respective data manipulation services by manipulating the bytes of the binary file, and wherein the generated computer code is executable binary code.
- 68) (Newly Added) A method of generating computer code using components, each component being a representation of a respective data manipulation service provided by a component server, the method including:
- a) Determining a component combination, the component combination being a combination of components representing a plurality of interconnected component servers for performing a defined series of data manipulations, the component combination being defined in accordance with requirements to allow a user desired functionality to be achieved, the component combination being determined by:
 - i) Providing input commands from the user to a first processing system;
 - ii) Based on the input commands, obtaining a plurality of component specifications each including an indication of the data manipulation service represented by a respective

- component, at least some of the plurality of components including inputs and outputs for receiving and/or outputting data to be manipulated; and,
- iii) Using the first processing system to define the component combination by interconnecting selected ones of the plurality of components by interconnecting inputs and outputs of certain of the selected ones of the plurality of components in response to input commands received from the user;
- b) Implementing the component combination to generate the computer code by:
- i) Causing the implementation of a component server corresponding to each component in the combination, each component server being implemented by a processing system; and,
- ii) Causing each component server to perform the respective data manipulation service in accordance with the defined series of data manipulations, at least some of the component servers performing the respective data manipulation service by interacting with a data sequence, and at least some of the component servers performing the respective data manipulation service by at least one of:
- (1) Interacting with one or more other component servers; and,
- (2) Causing the implementation of further components; and,
- iii) Obtaining, as a result of the component servers performing the series of data manipulations and from the data sequence, a resultant data sequence, the resultant data sequence being the computer code; and,
- c) Providing the computer code to a processing system, such that execution of the computer code by the processing system causes the processing system to perform the desired functionality.
- 69) (Newly Added) Apparatus for generating computer code using components, each component being a representation of a respective data manipulation service provided by a component server, the apparatus including one or more processing systems adapted to:
- a) Determine, using a processor, a component combination, the component being a combination of components embodying a respective data manipulation service and representing a plurality of interconnected component servers for performing a defined series of data manipulations, the component combination being defined in accordance with requirements to allow a user desired functionality to be achieved, the component combination being determined by:
- i) Providing input commands from the user to a first processing system;
- ii) Based on the input commands, obtaining a plurality of component specifications each including an indication of the data manipulation service represented by a respective

- component, at least some of the plurality of components including inputs and outputs for receiving and/or outputting data to be manipulated; and,
- iii) Using the first processing system to define the component combination by interconnecting selected ones of the plurality of components by interconnecting inputs and outputs of certain of the selected ones of the plurality of components in response to input commands received from the user;
 - b) Implement, using the processor, the component combination to generate the computer code by:
 - i) Causing the implementation of a component server corresponding to each component in the combination, each component server being implemented by a processing system; and,
 - ii) Causing each component server to perform the respective data manipulation service in accordance with the defined series of data manipulations, at least some of the component servers performing the respective data manipulation service by interacting with a data sequence, and at least some of the component servers performing the respective data manipulation service by at least one of:
 - (1) Interacting with one or more other component servers; and,
 - (2) Causing the implementation of further components; and,
 - iii) Obtaining as a result of the component servers performing the series of data manipulations and from the data sequence, a resultant data sequence, the resultant data sequence being the computer code; and,
 - c) Providing the computer code to a processing system, such that execution of the computer code by the processing system causes the processing system to perform the desired functionality.